American Reinvestment & Recovery Act (ARRA) Solar Projects
Progress at the Energy Commission

Unplugged: The Renewable Energy Panel Speaker Series
September 29, 2010
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California Energy Commission
ARRA Opportunity and Timelines

Grant in Lieu of Investment Tax Credit (ITC)

- Cash grant provided by US Treasury to cover up to 30% of upfront project costs for eligible renewable energy projects

- Deadlines:
  - State & federal permitting processes must be complete by year end 2010
  - Projects must “start construction” by year end 2010, and come on line per specified dates.
  - “Safe harbor” provisions may permit expenditure of 5% of certain project costs by year end as an alternative to physical construction start.
  - Solar thermal projects need to be in service no later than year end 2016
ARRA Opportunity and Timelines

Department of Energy (DOE) Loan Guarantee

• DOE will repay construction cost of loan if borrower defaults on bank loan
• Available to renewable generators OR facilities that manufacture related renewable energy components

• Deadline:
  o Project construction must start by September 30, 2011
  o Projects that cannot meet Treasury Grant deadlines may still qualify for loan guarantee
California Energy Commission (CEC) Mandate
Under Warren-Alquist Act

- CEC permit is in lieu of any state or local permit for thermal power plants with a capacity of >50 megawatts (MW)
- CEC is California Environmental Quality Act (CEQA) lead agency
- Certified Regulatory Program equivalent of environmental impact report
  - endangered species, cultural resources, visual, socioeconomic effects
  - Alternatives
  - Significant impacts must be mitigated or overridden
- Compliance with laws, ordinances, regulations and standards
- Safety and Reliability
- Power plant siting process provides a building permit for approved projects, and CEC is Chief Building Official
CEC Siting/Permitting Process

- **Data Adequacy**
  - Minimum requirements to accept application

- **Staff Discovery and Analysis**
  - Data Requests
  - Issues Identification & Resolution
  - Public Workshops
  - Staff Assessments (SA) – CEQA impact evaluations

- **Committee Evidentiary Hearing and Decision**
  - Evidentiary hearings based on SA and other information
  - Committee produces Presiding Member’s Proposed Decision (PMPD)
  - PMPD goes before full Commission for decision and if approved, a certification

Note: Most ARRA solar thermal projects have been proposed on BLM lands, requiring a federal National Environmental Policy Act (NEPA) environmental analysis also.
Ten Solar Thermal Projects Seeking ARRA funding Currently in the CEC Siting Process

- Ivanpah Solar Electric Generating System (370 MW) **APPROVED 9/22/10**
- Beacon Solar Energy Project (250 MW) **APPROVED 8/25/10**
- Imperial Valley Solar Project (750 MW) **PMPD Consideration 9/29**
- Calico Solar Project (850 MW)
- Abengoa Mojave Solar (250 MW) **APPROVED 9/8/10**
- Blythe Solar Power Project (1,000 MW) **APPROVED 9/15/10**
- Palen Solar Power Project (484 MW)
- Genesis Solar Energy Project (250 MW) **PMPD Consideration 9/29**
- Rice Solar Energy Project (150 MW)
- Ridgecrest Solar Power Project (250 MW) – delayed
Solar Thermal Projects Seeking ARRA funding
Currently in the CEC Siting Process
## Comparative Footprint of Projects at CEC

<table>
<thead>
<tr>
<th></th>
<th>SOLAR</th>
<th>NATURAL GAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Projects*</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Avg. MW</td>
<td>511</td>
<td>500</td>
</tr>
<tr>
<td>Avg. Acres</td>
<td>3,800</td>
<td>30</td>
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</tbody>
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The average solar project site is over **125 times larger** than the average natural gas project.

* In addition to 21 natural gas and solar projects, the Energy Commission is reviewing the Hydrogen Energy California project - a 390 MW petroleum coke/coal gasification project proposed on 473 acres in Kern County to demonstrate carbon sequestration technology.
Solar Thermal Project Permitting Challenges

Large project size exacerbates impacts

• Many in areas with minimal previous disturbance cause potential for significant impacts on biological resources

• Presence of sensitive cultural resources in desert

• Complex water/surface drainage engineering issues
Solar Thermal Project Permitting Challenges
Collaboration

• Need for unprecedented coordination with US Bureau of Land Management (BLM) given large number of projects proposed on federal land

• Impacts to endangered species require close coordination between CEC, CA Department of Fish & Game (DFG), and U.S. Fish and Wildlife Service (USFWS)
Meeting the Challenge

- SBx8 34 – Siting and human resource issues
- Close coordination between State and federal agencies
- High level coordination/ trouble shooting
  - Renewable Energy Policy Group (agencies)
  - Renewable Energy Action Team (state/federal agency mgmt)
  - Desert Renewable Energy Conservation Plan (DRECP) (agencies & stakeholders)
SB 8x34 Provisions

- Bill by Senator Alex Padilla signed into law on March 22, 2010
- Improved California permitting process for certain solar thermal projects located in DRECP boundary seeking ARRA 2010 funding
- Established incentives and recruitment/retention benefits for CEC staff working on ARRA solar project permitting
- Enables CEC decision makers to confer with other CA agency department heads about ARRA project issues
- Provides an option for dealing with biological resources impacts - paying into an interim mitigation fund administered by CA DFG in coordination with CEC
External Critical Path Items

- CEC Resolution of Cultural Resources Dispute with BLM
- Legal Vulnerability
- Biological Resources
- Transmission
Summary of Where We Are Now

- CEC hearings are “completed” or in progress for all but Palen and Rice projects.
- BLM has released 5 NEPA process Final Environmental Impact Statements (FEIS) (Blythe, Calico, Genesis, Imperial, Ivanpah projects) and will release more in September.
- BLM is completing Cultural Resources Programmatic Agreements for release in September.
- U.S. Fish and Wildlife Service is completing Biological Opinions on ARRA projects’ impacts to federally listed species in desert.
- Project developers and agencies considering options for phasing project development and phasing impact mitigation costs.
- CEC has approved 4 and released 2 PMPDs for 2,870 MW.
Crossing the Finish Line

• BLM issues Records of Decisions in a timely fashion that are consistent with CEC Proposed Decisions
• CEC and BLM post-decision phase: For approved projects, compliance with Conditions of Certification (CEC) and Right of Way Grant Conditions (BLM)
• CPUC approval of Final Power Purchase Agreements
• CPUC and SCE have a credible transmission arrangement
• SCE and CAISO achieve all the necessary FERC approvals
• DOE loan guarantees secured
• Project Financing Closed
• Project owners meet substantial construction requirements
• ARRA cash grants are paid
Additional Information

Project Information [www.energy.ca.gov/sitingcases](http://www.energy.ca.gov/sitingcases)

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